REMARKS

The present Amendment is in response to the Office Action dated May 20, 2005 in reference to the above-identified application. The Examiner has set a shortened statutory period for response to this action to expire three (3) months from the mailing date of the communication (i.e. August 20, 2005, a Saturday), making this response due August 22, 2005.

In that office action the drawings were objected to as failing to comply with 37 C.F.R. §1.84(p)(4) and (5). Specifically, the designation 156 was mistakenly substituted for designation 158 in Figures 2, 10, and 11. In addition, the disclosure and claim 10 were objected to for minor informalities.

More substantively, claims 1, 2, 4, 13, 22, and 34-40 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,148,899 to Berger in view of U.S. Patent No. 6,871,734 to Kupper et al. and U.S. Patent No. 5,416,698 to Hutchison. Claim 3 was rejected under 35 U.S.C. §103(a) as being obvious over Berger in view of Kupper et al. and Hutchison and further in view of U.S. Patent No. 5,941,922 to Price et al. Claims 14, 15, and 4-44 were rejected under 35 U.S.C. §103(a) as being obvious over Berger in view of Kupper et al. and Hutchison and further in view of Danielsson et al. (US 2004/0011152A1). Claim 21 was rejected under 35 U.S.C. §103(a) as being obvious over Berger in view of Kupper et al. and Hutchison and further in view of U.S. Patent No. 4,922,769 to Tury.

Applicant notes with appreciation the Examiner's indication that claims 23-33 were allowed and that claims 5-12 and 16-20 contain allowable subject matter.

DRAWING AMENDMENTS

Pursuant to 37 C.F.R. §1.121(d), application drawing Figures 1, 2, 4, 10, and 11 are amended and submitted on separate papers showing the proposed changes in red for approval by the examiner.

In response to the office action Applicant has amended the drawings and submitted on separate papers showing the proposed changes in red for approval by the Examiner. The disclosure has been amended to resolve the informalities cited by the examiner as well as informalities detected by the Applicant. Specifically, in the paragraph bridging pages 1 and 2, "engines" should be "engine's." In the paragraph bridging pages 14 and 15, "44" should be "46". In the first paragraph on page 17, "62" should be "60." In the first paragraph of page 20, "134" should be "34" and "132" should be "130." In the paragraph bridging pages 21 and 22, "brake" should be "clutch." Finally, claim 10 has been amended to correct the informality cited by the Examiner.

Dependent claim 5, indicated by Examiner as containing allowable subject matter, has been rewritten as newly presented independent claim 45 including all of the limitations of the base claim 1 and intervening claim 4. Accordingly, claim 5 has been canceled and the dependencies of claims 6, 7, 10, and 12 have been amended. Dependent claim 16, also indicated by Examiner as containing allowable subject matter, has been rewritten as newly presented claim 46 including all of the limitations of base claim 1 and the intervening claims 14 and 15. Accordingly, claim 16 has been canceled and the dependency of claim 17 has been amended. Claims 3 and 21 have been canceled.

Before addressing the substantive rejections, a review of the cited references is in order. First, Berger describes a clutch lockout apparatus intended to prevent the clutch from engaging when the transmission is in neutral thereby reducing idle rollover noise. Berger discloses a clutch latching mechanism with a solenoid 12 that acts to prevent the clutch lever arm 14

from being allowed to move into a clutch engaged state. Meanwhile the clutch pedal and clutch pedal arm are allowed to return to the clutch engaged position (Figures 2 and 3).

Second, Kupper et al. teaches an engine overspeed protector that senses the engine speed and directly disengages the clutch if the engine exceeds a preset maximum allowable engine speed. Kupper et al. teaches disengaging the clutch with a drum type actuator 8 installed in the transmission.

Next, Hutchison discloses an overspeed warning system that senses vehicle speed and selected gear ratio. Hutchison teaches turning on a warning light if the vehicle is traveling faster than is allowed for the particular selected gear. The warning light then serves as an indication to the driver not to engage the clutch.

Finally, Danielsson discloses an optically isolated gearshift lever position sensor that consists of a light emitting diode 7 that shines a beam 8 onto a photosensitive surface 9 which provides an electrical signal that corresponds to the gear shift lever position.

Turning to the substantive rejections, independent claim 1 has not been amended because none of the cited references individually or in combination disclose all of the limitations of claim 1. Claim 1 recites a "gearshift lever sensor mechanically coupled to said gearshift lever and operative to sense at least one of the gearshift positions." None of the references teach a sensor that is mechanically coupled to the gear shift lever. For example, Berger discloses follower 38 that senses the position of the shifter rail 34, not the shift lever as described in the exemplary embodiment of

the present invention. Kupper et al. does not teach a sensor mechanically coupled to the gear shift lever. On the contrary, Kupper et al. detects components confined in the transmission case that denote the selected gear (Col. 5, Line 45). Like Kupper et al., Hutchison also teaches incorporating the sensor 114 into the transmission case rather than mechanically coupling the sensor to the gear shift lever (Col. 5, Line 18). Because the references do not disclose all of the limitations recited in claim 1, it should be allowed as well as all claims depending therefrom.

Claim 4 should be allowed since the references do not teach the further limitations recited in this dependent claim. The clutch release arm 14 disclosed in Berger is not analogous to the reciprocating clutch pedal 32 of the present invention. Berger contemplates intervening in the engagement of the clutch at the clutch assembly. Claim 4 recites a "latch mechanism being associated with said clutch pedal," whereas Berger teaches a lockout solenoid associated with a clutch release arm 14. Similarly, Kupper et al. teaches intervening at the clutch assembly 2 with an actuator 8 to prevent engagement, rather than intervening at the clutch pedal as recited in claim 4. The references fail to teach all of the limitations of claim 4 and it should therefore be allowed.

In addition, it must be appreciated that the teachings of Berger and Kupper et al. conflict with one of the stated objectives of the present invention which, although not a limitation in the claims, is to provide a clutch control system that can be mounted in a retrofit manner. Berger and Kupper et al. teach intervening in the operation of the clutch release arm which results in a system that is more difficult to retrofit because the clutch release arm is

typically located in a less accessible and less desirable location than the clutch pedal. In cable operated clutch systems, intervening at the clutch release arm also has the disadvantage of inducing slack and/or bending in the clutch cable, both of which can lead to loss of clutch control.

Claim 34 has not been amended because there is no suggestion to combine the references cited. The proposed modification would render Berger unsatisfactory for its intended purpose, thus there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). See M.P.E.P §2143.01. Claim 34 recites "setting a maximum speed for at least a selected one of said gear states; monitoring the selected speed of the vehicle; monitoring the gearshift position of said gearshift lever to determine the gear state of said transmission" and then determining whether or not to prevent "said clutch assembly from moving from the disabled state to the enabled state" based on whether the speed of the vehicle exceeds the set maximum speed.

There is no suggestion to combine Berger with the teachings of Kupper et al. and Hutchison because it would render Berger unsatisfactory for its intended purpose. The apparatus disclosed in Berger is intended to hold the clutch assembly disengaged when the vehicle is in neutral, thereby reducing noise known as idle rollover. Berger also allows the clutch to engage when in a torque carrying gear thereby allowing normal operation. Contrary to Berger, Kupper et al. and Hutchison teach devices for preventing the engagement of the clutch assembly, under certain circumstances, when a torque carrying gear has been selected.

Hutchison and Kupper et al. both contradict the function of Berger when the transmission is in neutral. Hutchison operates a warning light when the vehicle is traveling faster than the allowable preset limit for a selected gear; otherwise the warning light is off. Necessarily when neutral is selected there is no need to prevent the clutch from engaging to prevent an overspeed condition. Kupper et al. disengages the clutch when the engine speed exceeds a preset allowable limit. When the operator selects neutral the engine speed will necessarily be at or near idle and would not approach a speed that might cause damage to the engine. Combining Hutchison and/or Kupper et al. with Berger would render Berger unsatisfactory for its intended purpose because combining the references would allow the clutch to be engaged while the transmission is in neutral and thus failing to prevent idle rollover noise. Based on the foregoing arguments claim 34 should be allowed as well as all claims depending therefrom. Applicant further contends that all other rejections relying on the combination of references including Berger should be allowed based on the foregoing arguments.

Also in regards to claim 34, Kupper et al. taken alone fails to disclose all of the limitations recited in claim 34. The method disclosed in Kupper et al. requires setting a maximum allowable engine speed and thereafter monitors engine speed (Col 1, Line 19; Col. 2, Line 59; Col. 6, Line 38; Col. 7, Line 25; Col. 8, Line 18). Kupper et al. teaches disengaging the clutch only after the allowable engine speed is exceeded. Kupper et al. fails to teach important limitations recited in Claim 34, namely that vehicle speed is monitored (not engine speed) and prevention of the clutch from moving to the enable state

occurs such that allowing the engine to reach an overspeed speed condition is unnecessary.

Claim 38 further recites limitations that patentably distinguish it from the prior art. Claim 38 recites a similar limitation as in claim 6 where "latching said clutch pedal in the second position is accomplished by latching the clutch pedal arm." None of the cited references teach latching the clutch pedal arm. Berger latches the clutch release arm 14 and Kupper et al. actuates the clutch 2 directly through actuator 8. In neither case do the references teach latching the clutch pedal or clutch pedal arm.

In addition to depending from claim 1, which should be allowed, claim 14 also recites limitations that are not disclosed in the references. Claim 14 recites a "follower engaging said gearshift lever and operative to follow the motion thereof and a position detector associated with said gearshift lever follower." Danielsson does not teach a follower engaged to the gearshift lever and an associated position sensor. Danielsson, instead, teaches attaching a diode to the lever which emits a light beam onto a photosensitive surface. Thus, Danielsson teaches an optically isolated position sensor only, with no follower engaging the gearshift lever.

Claims 41 and 42 have not been amended as the references do not disclose all of the limitations as recited in the claims. Furthermore, claim 41 depends from claim 34 which should be allowed. Claim 41 recites a "position detector mechanically linked to said gearshift lever." As more fully discussed above none of the references disclose mechanically linking to the gearshift lever. Claim 42 further recites "at least one code plate linked to said gearshift lever and an encoder operative to generate a gear state signal." None of the

references even remotely disclose the use of a code plate (72 and/or 76) to determine the position of the gearshift lever. Thus claims 41, 42 and all claims depending therefrom should be allowed.

Due to this Amendment, a new filing fee calculation is provided, as follows:

Maximum Total Claims This Amendment		Total Claims Previously Paid For	
42	-	44	= 0 x $ 25.00 = $0.00

Total Independent Claims Per This Amendment		Maximum Independent Claims Previously Paid For	
5	-	3	= 2 x $100.00 = $200.00

Additional Filing Fee Due $200.00

Accordingly, our check no. 5171 in the amount of $ 200.00 is enclosed. The Commissioner is hereby authorized to charge any deficiency in the payment of the required fee(s) or credit any overpayment to Deposit Account No. 13-1940.

Based on the foregoing, Applicant submits that the present application is in complete condition for allowance, and action to that end is courteously solicited. If any issues remain to be resolved prior to the granting of this application, the Examiner is requested to contact the undersigned attorney for the Applicant at the telephone number listed below.

Respectfully submitted,

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CERTIFICATE OF MAILING UNDER 37 C.F.R. 1.8

I hereby certify that the foregoing ***AMENDMENT (29 pages), Check No. 5171 in the amount of $200.00 AND DRAWING AMENDMENTS (3 pages)*** is being deposited with the United States Postal Service as first-class mail in an envelope addressed to Mail Stop Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 22nd day of August, 2005.

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Christy L. Burbank